

CASE 3951; Appli. of MARATHON OIL
CO. FOR SALT WATER DISPOSAL,
ROOSEVELT COUNTY, NEW MEXICO.

Case Number

3951

Application

Transcripts.

Small Exhibits

ETC.



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SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
November 20, 1968

IN THE MATTER OF:

Application of Marathon Oil Company)
for salt water disposal,)
Roosevelt County, New Mexico.)

Case No. 3951

BEFORE: ELVIS A. UTZ

TRANSCRIPT OF HEARING

MR. UTZ: Case 3951.

MR. HATCH: Application of Marathon Oil Company for salt water disposal, Roosevelt County, New Mexico.

MR. UTZ: Appearances?

MR. MORRIS: Mr. Examiner, I am Dick Morris of Montgomery, Federici, Hannahs and Morris, Santa Fe, appearing for the applicant Marathon Oil Company. We will have one witness, Mr. Clyde Alton, and ask that he be sworn, please.

MR. UTZ: Any other appearances? You may proceed.

(Witness sworn.)

(Applicant's Exhibits 1 through 4 marked for identification.)

* * * * *

CLYDE E. ALTON, called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. MORRIS:

Q Mr. Alton, will you please state your name, where you reside, by whom you are employed and in what capacity?

A C. E. Alton, I'm employed by Marathon Oil Company as a Staff Engineer in their Division Office in Houston, Texas.

Q Mr. Alton, have you previously testified before the Commission or one of its Examiners and had your qualifications as a Petroleum Engineer accepted as a matter of record?

A Yes, sir.

MR. MORRIS: Are the witness's qualifications acceptable, Mr. Examiner?

MR. UTZ: Yes, they are.

Q (By Mr. Morris) Mr. Alton, refer first to what has been marked Exhibit No. 1, state what that is and what it shows.

A Exhibit No. 1 is a plat of a portion of the Chaveroo Pool. Marathon's acreage is colored yellow. The proposed injection well is circled and colored red. You'll note there are several other circles on the map, color coded as shown below. This map has, I forget the exact date this map was submitted, but several other wells have been applied, for either salt water disposal or waterflood applications or injection applications, and the map you have is not up to date in that matter.

Q Would you point out the additional applications that you have noted on your map; whether that is a complete list or not, at least insofar as your information?

A Yes, sir. First in Sections 29 and 32 of 7 South, 33 East, Champline had two wells, their No. 12 in Section 29, their No. 5 in Section 32, approved for waterflood. Of course, we just heard Agua's application on the Humble Well in Section 30. The Sun Well No. 4 in Section 20, I

believe Sun applied for a pressure maintenance on November 12th. Kern County Land, those were already on the exhibit. I think the only other one that is not on the exhibit is Pan Am's No. 1 "DF", located in Section 25.

Q That's just north of your proposed well?

A Right; I believe that covers --

MR. UTZ: Which well was that again?

THE WITNESS: This is Pan Am's State "DF" No. 1 which is about three-quarters of a mile north, slightly east of Marathon's proposed injection well.

MR. UTZ: Oh, yes. It is not marked on the map, is it?

THE WITNESS: No, sir, it is not.

Q (By Mr. Morris) Now, does this plat also show all offset operators and all operators within a two-mile radius of your proposed well?

A Yes, sir, it does, and the red circle is a two-mile radius circle with Marathon's proposed well as the center.

Q Does this plat also show the location of all San Andres wells in this area?

A Yes, sir.

Q Would you briefly state the history of the subject well, when it was drilled and how it is, what its present

status is?

A Well, this Marathon State No. 1 in Section 36, was drilled by Mr. Taylor Pruitt on a farmout from Marathon. The well was spudded in April of this year, and finally Mr. Pruitt abandoned the well in September of this year. After much testing, Mr. Pruitt perforated a gross interval initially of from 4163 to 4413 with a total of 39 three-eighths-inch jet shots. He treated this interval with a thousand gallons of mud acid and 10,000 gallons of 28% acid with 1800 barrels of treated water and this interval was pump tested and produced a hundred percent water with a slight oil show, at a rate of about 180 barrels of water per day. Then Mr. Pruitt set a packer at 4304 feet, and tested the perforations 4315 to 4413. These perforations tested for approximately 4 barrels of oil per day along with 200 barrels of water per day.

After this test was accomplished, Mr. Pruitt added perforations in a gross interval from 4426 to 4460, I believe there were only 7 shots added. Then the interval 4413 to 4460 was treated with a thousand gallons of mud acid, 4,000 gallons of 28% acid and 800 barrels of treated water. Mr. Pruitt then ran a submersible pump, set the pump at 4154 and tested the gross perforated interval from 4163 to 4460. This interval

was tested for 24 days, and produced 238 barrels of oil and 12,000 barrels of salt water, which averages ten barrels of oil per day and 500 barrels of water a day, or 98.1% water cut.

Mr. Pruitt then abandoned the well, and Marathon purchased the well from Mr. Pruitt for salt water disposal purposes.

Q Will you please refer, Mr. Alton, to what has been marked Exhibit No. 2, the diagrammatic sketch of the well, and just point out the main features of this exhibit?

A Exhibit No. 2, the diagrammatic sketch, shows the 8 and 5/8ths surface casing set at 333 feet with 225 sacks and cemented to the surface. It shows also the 4 and 1/2 production casing set at 4498, with 650 sacks and the calculated top of the cement behind the 4 and 1/2 is 1361 feet. A temperature survey was not run by Mr. Pruitt to locate the top of the cement.

It also shows the gross perforated interval in which we wish to inject water, from 4163 to 4460.

Q Let me interrupt there and ask you if there is a correction to be made on this exhibit with respect to these perforations?

A Yes, sir, in the listing of the perforations on the

second line of perforations, we have omitted a 3/8ths-inch hole at 4279, so this should be corrected to reflect that there is a perforation at 4279.

Q Go ahead.

A Also shown is the plug-back T.D. of the well at 4471. We also show our proposed 2 and 3/8ths tubing to be internally plastic-coated and we also show the Johnson Tension Packer to be set at approximately 4100 feet and we intend to fill the annulus with inhibited brine water.

Q Mr. Alton, are these perforations in the gross interval from 4163 to 4460 all in the San Andres formation?

A Yes, sir.

Q Have you prepared two cross-sections, one being a west-east cross-section and a north-south cross-section showing the relative position of this well to other wells in this area?

A Yes, sir, I have.

Q Would you refer then, to Exhibits 3 and 4, being those cross-sections, and comment with respect to those exhibits?

A Looking at the west-east cross-section B B Prime, and referring to the line of wells on this cross-section on the little plat below, I have shown a correlation point. Let me correct that, I have shown two correlation points, one

is readily correlateable throughout the field, the uppermost correlation point. We feel like the lower correlation point is also readily correlateable. I have shown the gross perforated interval of all these wells as the filled-in-black on the blue in-depth column; I've shown the top of the San Andres on these wells, the log-type, the well itself, the location, the Kelly Bushing elevation and the total depth.

Q Let me ask, has a complete log of the proposed injection well previously been furnished to the Commission as part of the application?

A Yes, sir, it has.

Q What does this cross-section show with respect to the relative position of the subject well to other wells?

A Well, this particular cross-section shows that the subject well is the lowest of the ones shown here.

Q Would you refer to your north-south cross-section, and comment on that exhibit?

A This is essentially the same thing as the west-east only progressing in a northward direction from our proposed injection well being shown again on the far right with the gross perforated intervals of these wells shown as the blue filled-in part of the depth column, also the same correlation points that were used in the other cross-section and the same

information on each well at the top. This also shows that this is again the lowermost well.

Q Has the subject well been tested, Mr. Alton, to determine its ability to take water in the San Andres zone?

A Yes, sir, it has. It was tested on November the 9th, November 7th, pardon me, and the well took water by gravity at 2 barrels per minute, and in an attempt to establish an injection rate under pressure, the well took water at the rate of six and a half barrels per minute at zero wellhead pressure.

Q What is your proposal with respect to the amount of water to initially be injected in this well?

A Marathon proposes, subject to Commission approval, to dispose of its produced salt water from the San Andres into this well, Marathon State No. 1, and we propose to dispose of this produced water into the gross perforated interval 4163 to 4460. Initially, we expect to dispose of approximately 30 barrels of salt water per day based on the production of 7,314 barrels of water from Marathon properties over the period January 1 through September 30th, 1968, for an average of 27 barrels per day.

Q Mr. Alton, has Southern Petroleum, your exploration, your west offset, been notified of this application?

A Yes, sir, they have.

Q Have you had negotiations with them concerning the possibility of disposing of some salt water that they are producing into the subject well?

A Yes, sir, we have.

Q And are those negotiations continuing?

A Yes, sir.

Q Is anything firm in that regard at the present time?

A No, sir, nothing firm.

Q In your opinion, Mr. Alton, will the injection of water into the subject well cause waste or adversely affect correlative rights of any operators in this area?

A No, sir, in my opinion it certainly will not.

Q In your opinion, what will be the effect of injection of water into this well?

A Initially, with the small volumes we are talking about, there would very probably be no affect whatsoever. However, at a later time when larger volumes of water are injected, the offsetting wells could be possibly benefited by this injection.

Q Were Exhibits 1 through 4 prepared by you or under your supervision?

A Yes, sir, they were.

MR. MORRIS: Mr. Examiner, we offer into evidence Marathon's Exhibits 1 through 4.

MR. UTZ: Without objection, Exhibits 1 through 4 will be entered into the record of this case.

(Whereupon Marathon's Exhibits 1 through 4 offered and admitted in evidence.)

MR. MORRIS: That's all we have on direct examination.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Alton, on your cross-sections, it's that entire log interval that's shown there that is all in the San Andres, is it not?

A Yes, all the log interval zone here is in the San Andres, the tops of the San Andres are roughly 200 feet above this interval shown on this log.

Q So really not all of the San Andres is shown on this?

A No, sir, it is not.

Q Did I understand you to say that you plan to inject 27 barrels per day or that you had?

A This is Marathon's present salt water production.

Q And you do intend to inject water for anyone else in this area that wants it?

A Yes, sir, up to the capacity of our disposal facilities.

Q Six and a half barrels per minute would be how many barrels per day? Do you have that figure?

A No, sir, I don't.

Q That's all right; I can multiply it out, quite a few barrels though.

A Yes, sir.

Q Is it your intention to put a pressure gauge at the surface of the annulus?

A Yes, sir.

Q And the perforations shown on your Exhibit 2 will be all the perforations through which you will inject?

A Yes, sir, we do not intend to open any more perforations.

MR. UTZ: Any other questions of the witness?

The witness may be excused.

(Witness excused.)

MR. UTZ: The case will be taken under advisement.

I N D E X

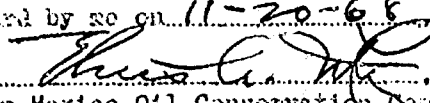
WITNESS		PAGE
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Applicant's 1 through 4	2	11

STATE OF NEW MEXICO)
) ss
 COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Court Reporter within and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my hand this 27th day of November, 1968.


 ADA DEARNLEY

I do hereby certify that the foregoing is
 a complete record of the proceedings in
 the Exemption hearing of Case No. 3951,
 heard by me on 11-20-68, 1968.

 Commissioner
 New Mexico Oil Conservation Commission

GOVERNOR
DAVID F. CARGO
CHAIRMAN

State of New Mexico
Oil Conservation Commission



LAND COMMISSIONER
GUYTON B. HAYS
MEMBER

STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

P. O. BOX 2088
SANTA FE

November 26, 1968

Mr. Richard S. Morris
Montgomery, Federici, Andrews,
Hannaha & Morris
Attorneys at Law
Post Office Box 2307
Santa Fe, New Mexico

Re: Case No. 3951
Order No. R-3596
Applicant:
Marathon Oil Company

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. Porter, Jr.
A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Carbon copy of order also sent to:

Hobbs OCC X

Artesia OCC

Aztec OCC

Other State Engineer Office

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE No. 3951
Order No. R-3596

APPLICATION OF MARATHON OIL
COMPANY FOR SALT WATER DISPOSAL,
ROOSEVELT COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 8:30 a.m. on November 20, 1968, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 26th day of November, 1968, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Marathon Oil Company, is the owner and operator of the Marathon State Well No. 1, located in Unit G of Section 36, Township 7 South, Range 33 East, NMPM, Chaveroo-San Andres Pool, Roosevelt County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the San Andres formation, with injection into the perforated interval from approximately 4163 feet to 4460 feet.

(4) That the injection should be accomplished through 2 3/8-inch plastic-lined tubing installed in a packer set at approximately 4100 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should

-2-

CASE No. 3951
Order No. R-3596

be attached to the annulus at the surface in order to determine leakage in the casing, tubing, or packer.

(5) That approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

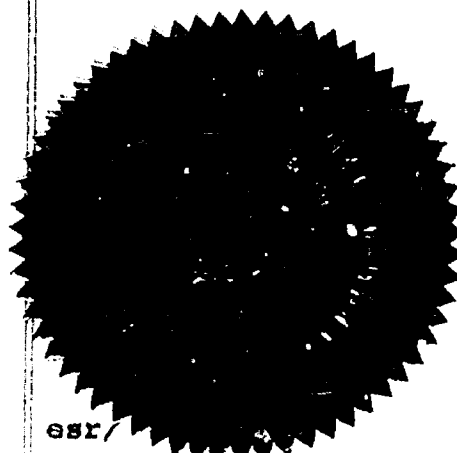
(1) That the applicant, Marathon Oil Company, is hereby authorized to utilize its Marathon State Well No. 1, located in Unit G of Section 36, Township 7 South, Range 33 East, NMPM, Chaveroo-San Andres Pool, Roosevelt County, New Mexico, to dispose of produced salt water into the San Andres formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 4100 feet, with injection into the perforated interval from approximately 4163 feet to 4460 feet;

PROVIDED HOWEVER, that the tubing shall be plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus at the surface in order to determine leakage in the casing, tubing, or packer.

(2) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(3) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.



STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

David B. Cargo
DAVID B. CARGO, Chairman

Guyton B. Hays
GUYTON B. HAYS, Member

A. L. Porter, Jr.
A. L. PORTER, Jr., Member & Secretary

esr/

Case 3951
Heard 11-20-68
Rec. 11-21-68

Grant Marathon permission to convert their ST # G-36-75-33 E. to an S.W.D. well. Injection shall be thru 2 $\frac{3}{8}$ Internally plastic coated tubing - under a packer set at approx. 4100' into perfor. from 4163-4460 into the S.A. formation. Annulus. 4 $\frac{1}{2}$ x 2 $\frac{3}{8}$ to be filled w/ inert fluid.

Thos. W.

Lease 6015 ARC Federal Well No. 1 located in Unit O of Section 9, Township 20 South, Range 33 East, West Teas Pool, Lea County, New Mexico.

- CASE 3949: Application of Phillips Petroleum Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Lower Wolfcamp and Upper Pennsylvanian formations in the open-hole interval from approximately 9580 feet to 10,400 feet in its Pello "A" Well No. 1, located in Unit L of Section 2, Township 15 South, Range 32 East, Tulk-Wolfcamp Pool, Lea County, New Mexico.
- CASE 3950: Application of Agua, Inc., for salt water disposal, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres and such other formations as may be present in the perforated interval from approximately 4148 feet to 4388 feet in its Chaveroo SWD Well No. C-30 (formerly the Humble Oil & Refining Company Federal Andrews Well No. 1) located in the NE/4 NW/4 of Section 30, Township 7 South, Range 33 East, Chaveroo-San Andres Pool, Roosevelt County, New Mexico.
- CASE 3951: Application of Marathon Oil Company for salt water disposal, Roosevelt County, New Mexico. Applicant in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation in the perforated interval from approximately 4163 feet to 4460 feet in its Marathon State Well No. 1 located in Unit G of Section 36, Township 7 South, Range 33 East, Chaveroo-San Andres Pool, Roosevelt County, New Mexico.
- CASE 3952: Application of Sam D. Ares for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Seven Rivers formation in the open-hole interval from approximately 3415 feet to 3492 feet in his Everett Well No. 2 located 660 feet from the South line and 1980 feet from the West line of Section 35, Township 24 South, Range 36 East, Jalmat Pool, Lea County, New Mexico.
- CASE 3953: Application of B. J. Graham for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Seven Rivers formation in the open-hole interval from approximately

CHAVEROO SAN ANDRES FIELD

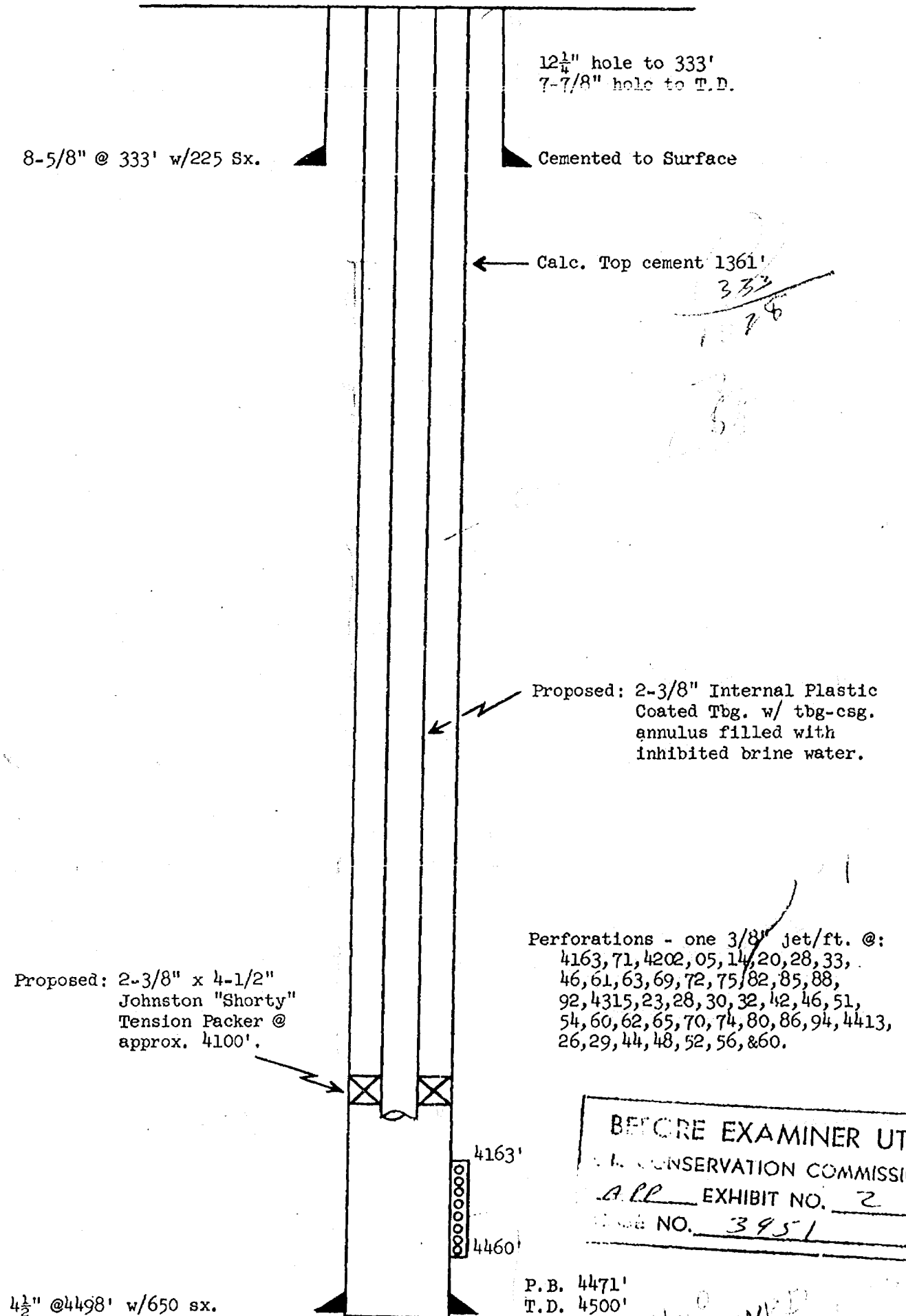
Diagrammatic Sketch

Marathon State Well No. 1

Loc: 1980' FN&E Lines, Sec. 36, T-7-S, R-33-E

Roosevelt County, New Mexico

Ground Elevation 4321.2'



Chaveroo Field

Marathon State Well No. 1

Location: 1980' from North Line
1980' from East Line
Section 36, Twp 7-S, Rge. 33-E
Roosevelt County, New Mexico

Offset Lessees

- | | |
|--|---|
| 1. Pan American Petroleum Corp.
P. O. Box 68
Hobbs, New Mexico 88240 | 2. Skelly Oil Company
801 N. Linam Street
P. O. Box 730
Hobbs, New Mexico 88240 |
| 3. Southern Minerals Corp.
323 W. Missouri
P. O. Box 1816
Midland, Texas 79701 | 4. Southern Petroleum Exploration, Inc.
200 W. First Street
P. O. Box 1434
Roswell, New Mexico 88201 |
| 5. Tenneco Oil Company
18th Floor, Wilco Bldg.
Midland, Texas 79701
attn: Production Department | |

Other Lessees within Two Mile Radius

- | | |
|--|--|
| 6. American Trading & Production Corp.
Petroleum Life Bldg.
Drawer 992
Midland, Texas 79701 | 7. Antweil, Morris R.
814 W. Marland
P. O. Box 2010
Hobbs, New Mexico 88240 |
| 8. Atlantic Richfield Co.
Security National Bank Bldg.
P. O. Box 1978
Roswell, New Mexico 88201 | 9. Champlin Petroleum Co.
701 Wilco Bldg.
Box 1797
Midland, Texas 79701 |
| 10. Cities Service Oil Company
P. O. Box 69
Hobbs, New Mexico 88240 | 11. Dalport Oil Corporation
930 Fidelity Union Life Bldg.
Dallas, Texas |
| 12. Kern County Land Co.
418 First State Bank Bldg.
Midland, Texas 79701 | 13. Kerr-McGee Oil Industries Inc.
Kerr-McGee Bldg.
Oklahoma City 2, Oklahoma |
| 14. Midwest Oil Corp.
1500 Wilco Bldg.
Midland, Texas 79701 | 15. Read, C. B.
604 Security National Bank Bldg.
Box 2126
Roswell, New Mexico 88201 |
| 16. Shell Oil Co.
Box 1509
Midland, Texas 79701 | 17. Sinclair Oil & Gas Co.
Midland Savings Bldg.
Box 1470
Midland, Texas 79701 |
| 18. Sunray DX Oil Company
Box 1416
Roswell, New Mexico 88201 | |

MARATHON OIL COMPANY
68 OCT 30 PM 2 17
BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION

APPLICATION OF MARATHON OIL
COMPANY FOR SALT WATER
DISPOSAL, ROOSEVELT COUNTY,
NEW MEXICO. }

Case No. 2951

A P P L I C A T I O N

Comes now Marathon Oil Company, by its attorneys, and applies to the New Mexico Oil Conservation Commission for permission to dispose of produced salt water and in support of its application states:

1. Applicant seeks authority to dispose of produced salt water in to the San Andres formation in the gross perforated interval from approximately 4,163 feet to 4,460 feet in the Marathon State Well No. 1 located 1,980 feet from the north and east lines of Section 36, T. 7 S., R. 33 E., Chaveroo-San Andres Pool, Roosevelt County, New Mexico.

2. This application will be supplemented by information required under Rule 701 of the Rules and regulations of the Commission.

3. Following are the names and addresses of operators offsetting the proposed injection well:

Southern Petroleum Exploration, Inc.
200 W. First Street
P. O. Box 1434
Roswell, New Mexico 88201

Skelly Oil Company
801 N. Linam
P. O. Box 730
Hobbs, New Mexico 88240

Southern Minerals Corporation
323 W. Missouri
P. O. Box 1816
Midland, Texas 79701

Tenneco Oil Co.
18th Floor, Wilco Building
Midland, Texas 79701

DOCKET MAILED
Date 11-7-68

Pan American Petroleum Corporation
P. O. Box 68
Hobbs, New Mexico 88240

4. Approval of this application is necessary to prevent waste and protect correlative rights.

WHEREFORE, Marathon Oil Company requests that this application be set for hearing before one of the Commission's duly appointed Examiners on November 20, 1968 and that the Commission enter its order approving this application.

MONTGOMERY, FEDERICI, ANDREWS,
HANNAHS & MORRIS

By Richard J. Morris
P. O. Box 2307
Santa Fe, New Mexico
Attorneys for Marathon Oil
Company.

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE No. 3951

Order No. R-3596

APPLICATION OF MARATHON OIL
COMPANY FOR SALT WATER DISPOSAL,
ROOSEVELT COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at ^{8:30} a.m. on November 20, 1968,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this _____ day of November, 1968, the Commission, a
quorum being present, having considered the testimony, the record,
and the recommendations of the Examiner, and being fully advised
in the premises,

FINDS:

(1) That due public notice having been given as required by
law, the Commission has jurisdiction of this cause and the subject
matter thereof.

(2) That the applicant, Marathon Oil Company,
is the owner and operator of the Marathon State Well No. 1,
located in Unit G of Section 36, Township 7 South, Range
33 East, NMPM, Chaveroo-San Andres Pool, Roosevelt
County, New Mexico.

(3) That the applicant proposes to utilize said well to
dispose of produced salt water into the San Andres
formation, with injection into the perforated interval
from approximately 4163 feet to 4460 feet.

(4) That the injection should be accomplished through
2 3/8-inch plastic-lined tubing installed in a packer set at

approximately 4100 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should be attached to the annulus ~~or the annulus left open~~ at the surface in order to determine leakage in the casing, tubing, or packer.

(5) That approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Marathon Oil Company, is hereby authorized to utilize its Marathon State Well No. 1, located in Unit G of Section 36, Township 7 South, Range 33 East, NMPM, Chaveroo-San Andres Pool, Roosevelt County, New Mexico, to dispose of produced salt water into the San Andres formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 4100 feet, with injection into the perforated interval from approximately 4163 feet to 4460 feet;

PROVIDED HOWEVER, that the tubing shall be plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus ~~or the annulus left open~~ at the surface in order to determine leakage in the casing, tubing, or packer.

(2) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(3) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.